

Using Soil Data Viewer v5.0 to Calculate Soil Attribute Acreage.

Soil Data Viewer version 5.0 was released in October, 2005. When used with ArcMap, SDV will generate thematic maps based on various soil attributes contained in the NASIS soils database for the soil survey area. This document details a procedure to generate reports that summarize the acreage of land by the specified attribute. The example screens show a report summarized by acres of WEI. However, the same procedure could be used for reports by range site, hydrologic unit, etc.

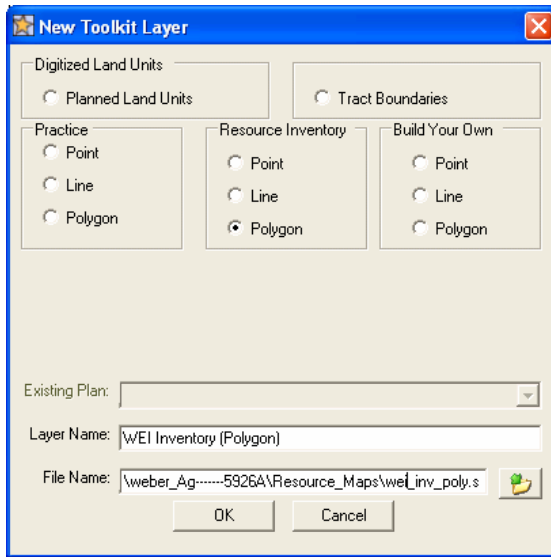
An overview of the steps which are detailed on the following pages is:

- Open ArcMap from the customer folder in Toolkit.
- Create a new Inventory (polygon) layer or use an existing planned land unit layer.
- Create a soils layer for the inventory or land unit area.
- Open SDV and select desired attribute and create map.
- Use ArcMap Report wizard to specify parameters.
- Generate the report.

By using the Resource Inventory, a conservation plan (ie, planned land unit layer) is not required. This may be desirable for performing initial eligibility determinations or preliminary planning. It provides a quick method to determine the acres.

On the other hand, this method can be adapted to use with a planned land unit layer that has been attributed. The data can be stored with the conservation plan data in the customer's Toolkit folder.

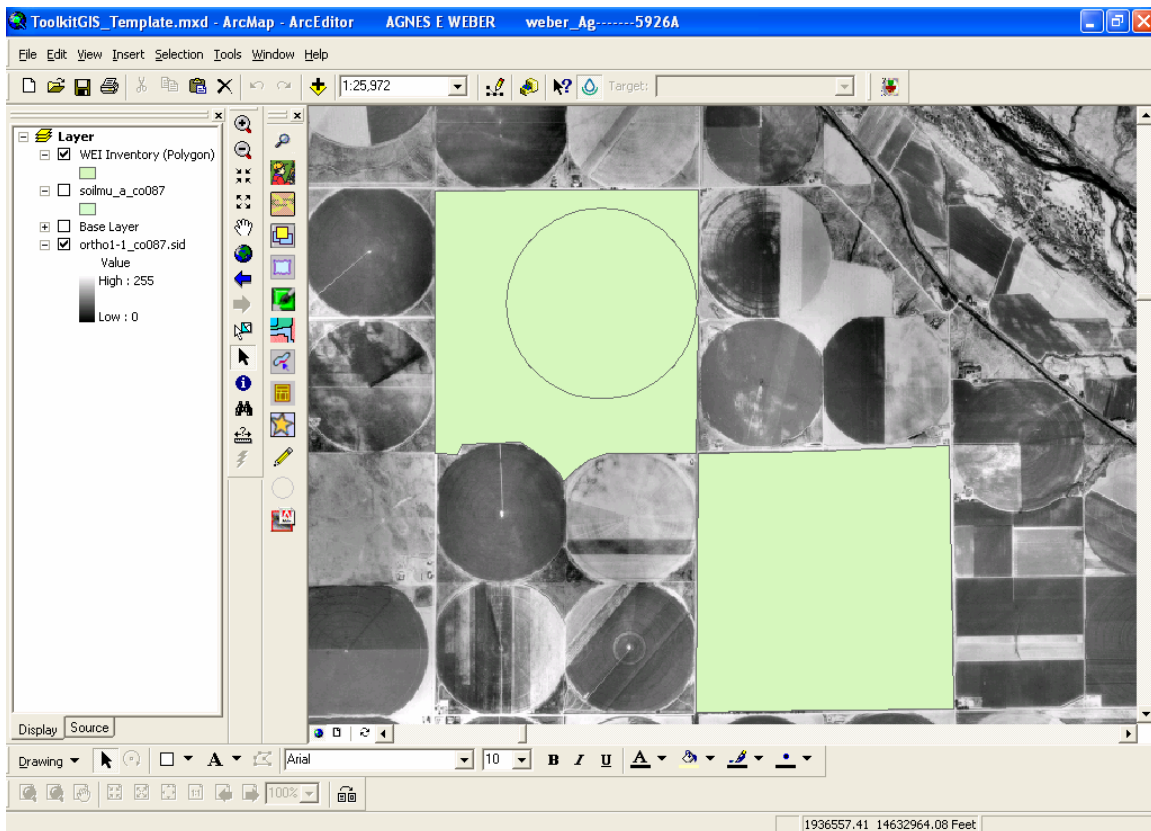
Step 1: Create a new Resource Inventory layer and delineate the land area.



The data is stored in the customer folder under the Resource_Maps folder, unless you specify a different location.

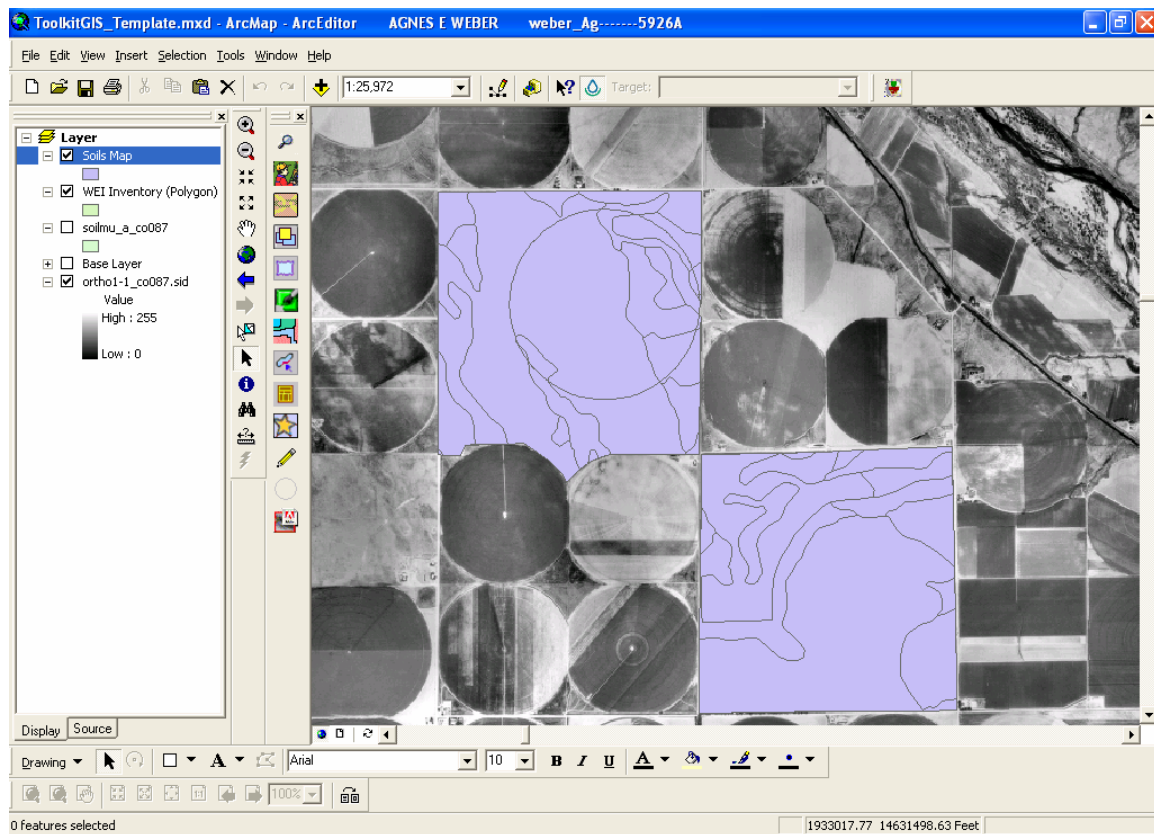
If you wish to preserve the layer data and not overwrite it or other resource inventory layers, you should rename the file name where Toolkit will save the data. If you don't care, then you can let it overwrite the data.

In this example, the **Layer Name** and **File Name** have been modified to include the WEI notation.



A resource inventory layer called *WEI Inventory (polygon)* is shown above after it was manually digitized. You could also copy land unit polygons from another layer, like the clu layer, if you wished. Note that a plan was not created or selected in this example. ArcMap used a random color fill to display the WEI Inventory polygons, which you can change if desired.

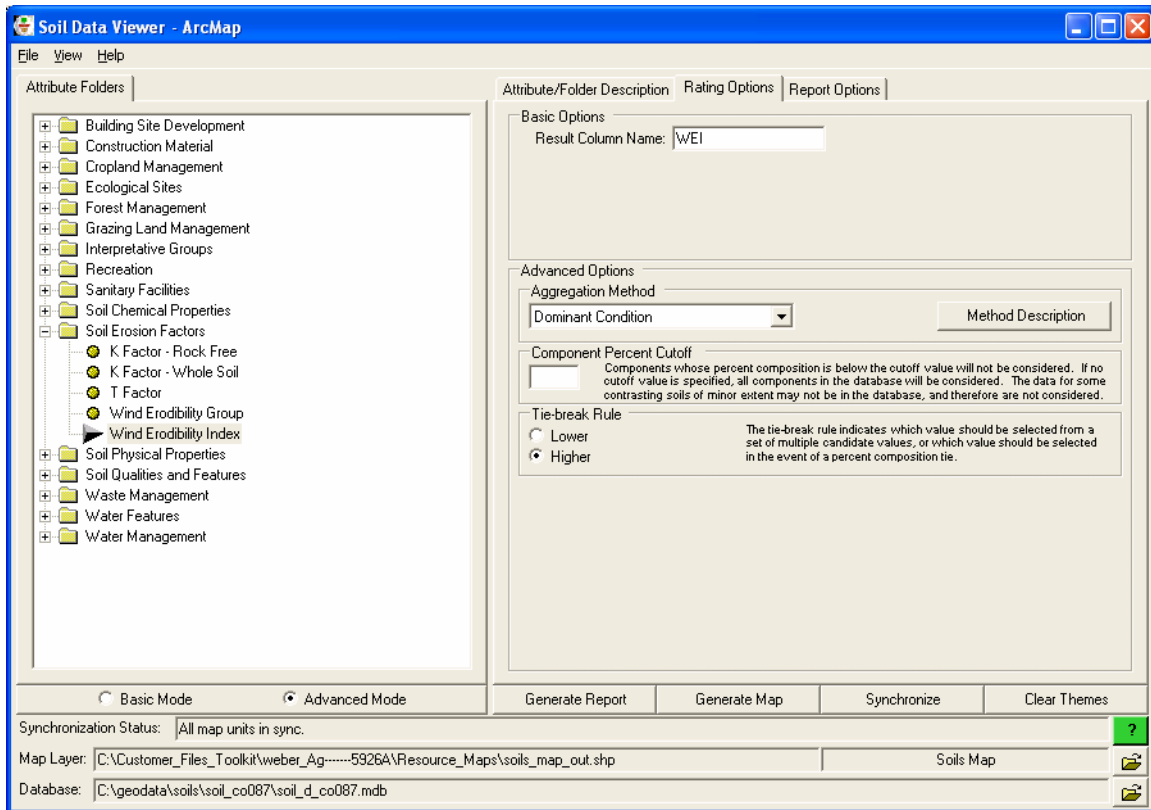
Step 2: Create a Soils Map for the Resource Inventory layer. This will be used by the SDV to create the theme maps.



In the example screen above, a Soils Map has been created for the WEI Inventory layer. The county wide soils layer could be removed at this point, since it would no longer be needed. The Soil Data Viewer will use the Soils Map to create desired theme maps.

An existing Soils Map for a conservation plan could have also been used for creating the WEI theme map.

Step 3: Start the Soil Data Viewer by clicking on its icon on the ArcMap Standard toolbar.

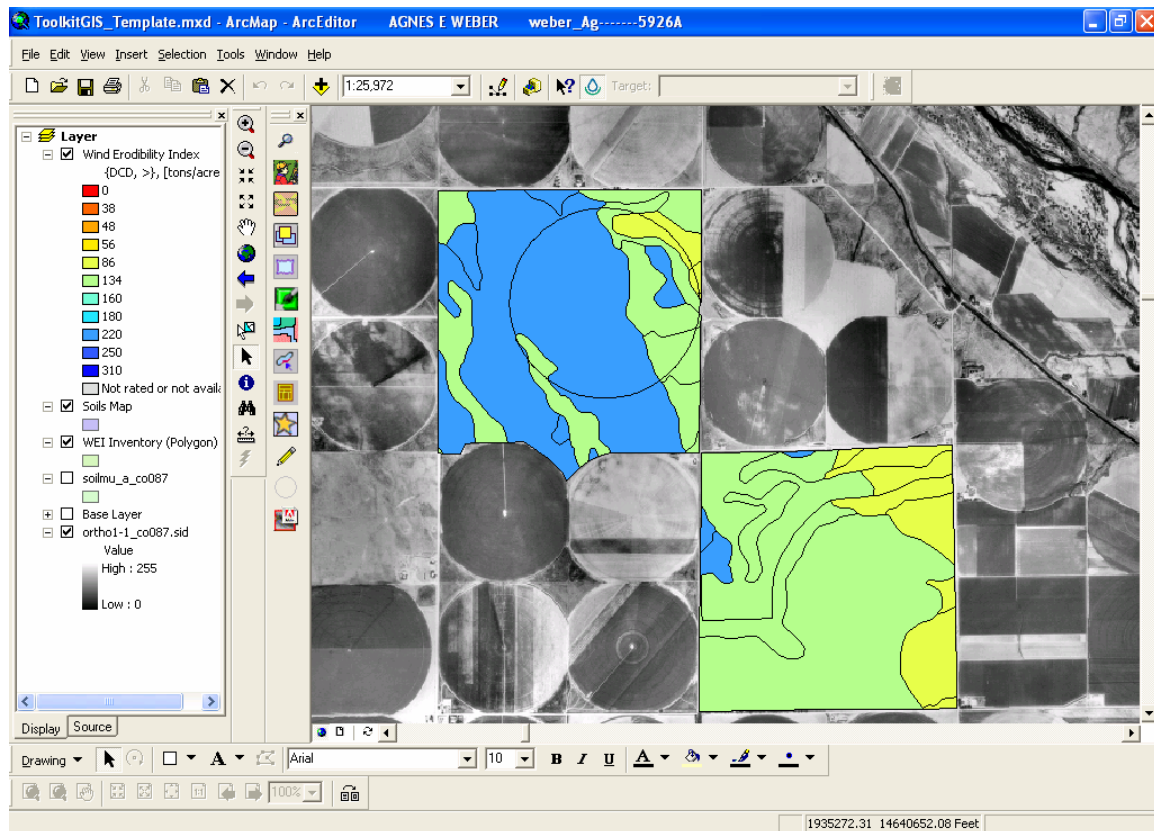


In the SDV screen above, the **Attribute Folder** for the Wind Erodibility Index has been opened, and the default settings are visible. Note that the **Map Layer** and **Database** fields at the bottom are set to use the Soil Map layer for the Resource Inventory layer and the NASIS soils database.

Clicking on the **Generate Map** button will create a WEI theme map for the Resource Inventory layer.

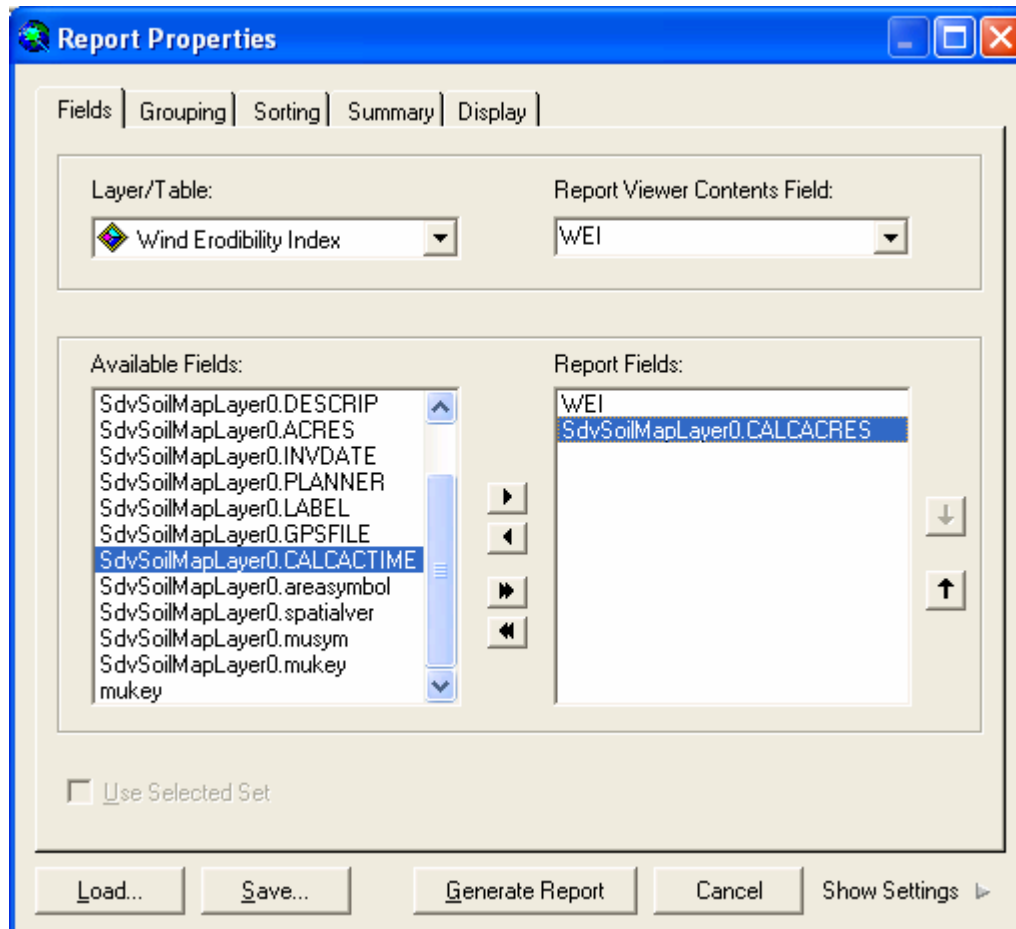
Consult the Soil Data Viewer 5.0 User Guide for detailed instructions on using the SDV.

The WEI map has been added to the ArcMap display:



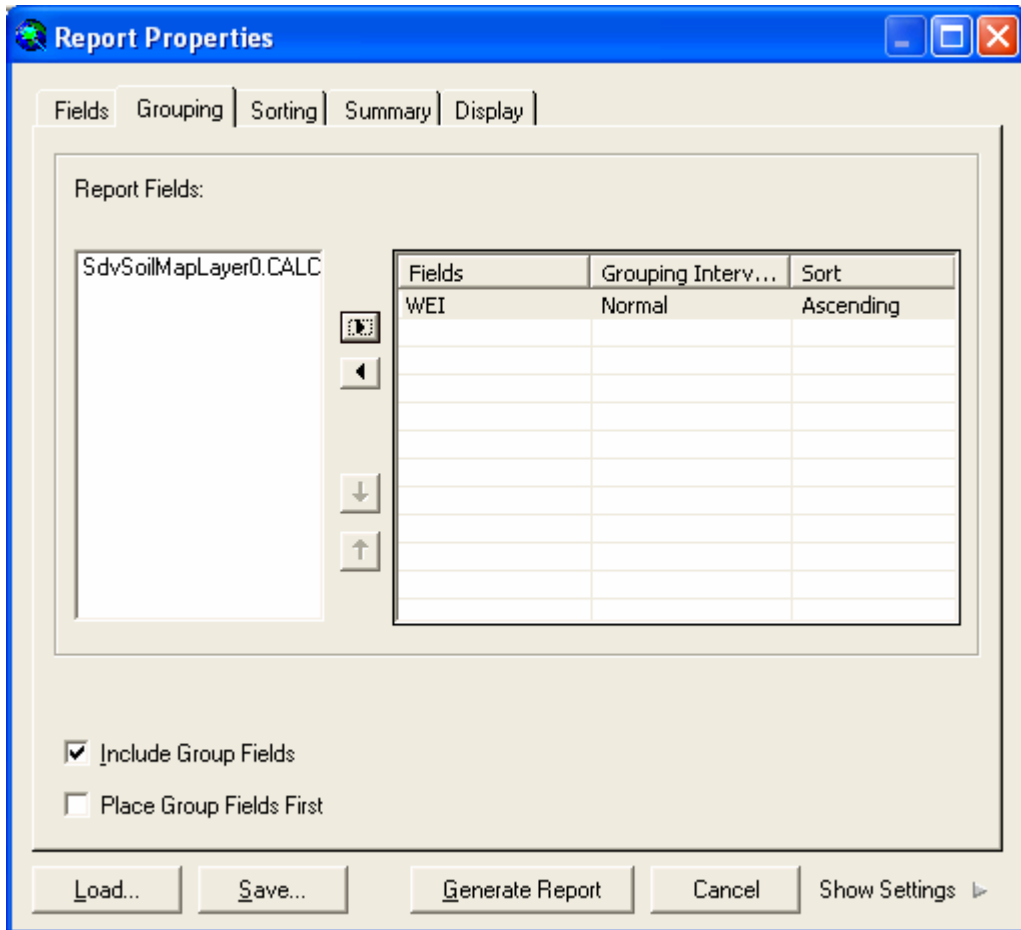
The temporary SDV theme layer of soils classified by WEI is displayed. All of the theme layers created by SDV are temporary and will not be stored as part of the ArcMap document. It is easy to re-create them again if needed, or they can be exported and stored permanently as a shapefile, if desired. This is done by right-clicking on the layer name and selecting **Data – Export Data** and following the prompts.

Step 4: Generate the report by clicking on Tools – Reports - Create Reports on the ArcMap menu. The Report Properties window appears after a momentary pause:



Make sure you have the correct **Layer/Table** specified and then select the fields you want displayed in the report from the **Available Fields** list. In the example above, the *WEI* and *CALCACRES* fields have been selected. Other data fields could be included, like land unit number or label, if they have been attributed prior to creating the theme map with SDV.

Click on the **Grouping** tab.



The image shows the 'Report Properties' dialog box with the 'Grouping' tab selected. The 'Report Fields' list on the left contains 'SdvSoilMapLayer0.CALC'. The table on the right shows 'WEI' selected in the 'Fields' column, with 'Normal' in the 'Grouping Interv...' column and 'Ascending' in the 'Sort' column. The 'Include Group Fields' checkbox is checked, and 'Place Group Fields First' is unchecked. The bottom buttons are 'Load...', 'Save...', 'Generate Report', 'Cancel', and 'Show Settings'.

Report Properties

Fields | **Grouping** | Sorting | Summary | Display

Report Fields:

SdvSoilMapLayer0.CALC

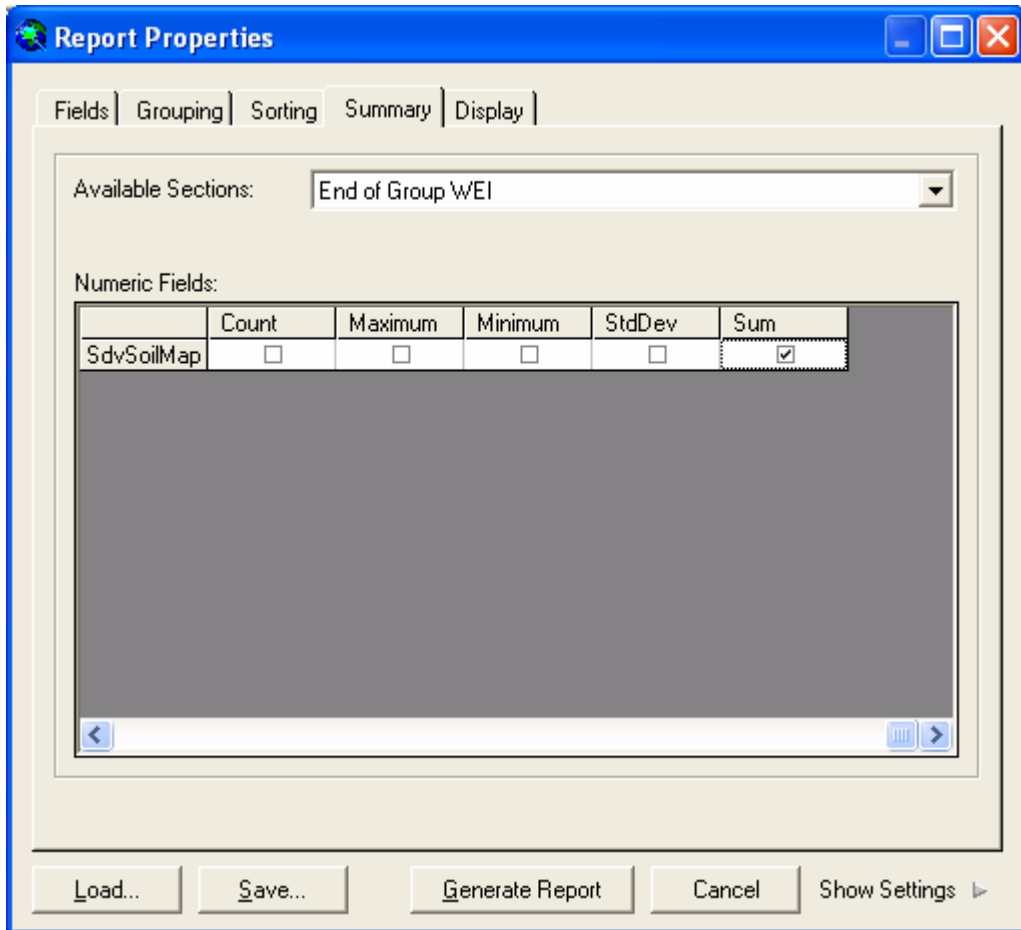
Fields	Grouping Interv...	Sort
WEI	Normal	Ascending

☒ Include Group Fields
☐ Place Group Fields First

Load... Save... Generate Report Cancel Show Settings

Click on *WEI* in the left column to select it then click the arrow key to have the report grouped by WEI values. This operation has already been completed in the example above.

Click on the **Summary** tab to set how the data will be summarized.



The image shows a 'Report Properties' dialog box with the 'Summary' tab selected. The 'Available Sections' dropdown is set to 'End of Group WEI'. Below this, the 'Numeric Fields' section contains a table with columns for 'Count', 'Maximum', 'Minimum', 'StdDev', and 'Sum'. The field 'SdvSoilMap' is listed, and the 'Sum' checkbox is checked. At the bottom of the dialog are buttons for 'Load...', 'Save...', 'Generate Report', 'Cancel', and 'Show Settings'.

Report Properties

Fields | Grouping | Sorting | **Summary** | Display

Available Sections: End of Group WEI

Numeric Fields:

	Count	Maximum	Minimum	StdDev	Sum
SdvSoilMap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Load... Save... Generate Report Cancel Show Settings

From the **Available Sections**, select the **End of Group...** that you wish to summarize by and then check the operation to perform. In this example, the **Sum** is checked so that it will sum the *CALCACRES* values at the end of each WEI Group.

Click **Generate Report** to create the report. It will display the data in report form, the appearance of which will vary depending on the settings selected in the previous screens.

Final page of 5 page report:

WEI	SdvSoilMapLayer0.CALCACRES	
220	9	
220	0.4	
220	0.1	
220	0.1	
220	169.7	
220	15.8	
220	155.9	
220	5.5	
220	21.3	
<i>SdvSoilMapLayer0.CALCACRES Sum</i>		520.0
86		
86	2.2	
86	39.5	
86	4.9	
86	25.6	
86	18.7	
86	16.3	
86	2.8	
86	17.5	
<i>SdvSoilMapLayer0.CALCACRES Sum</i>		127.5
<i>SdvSoilMapLayer0.CALCACRES Sum</i>		1247.7

Sum of 220 WEI group, continued from page 4 of report.

Heading for 86 WEI group.

Sum of 86 WEI group.

Sum of total acres in inventoried. Must be selected in Summary tab of report setup.

The report can be printed, exported, or saved. It will store the data with the report. Loading a saved report with a different Resource Inventory layer will NOT result in a report for the new layer. You must set the parameters each time you run a new report.